

THE MYSTERIOUS ORIGINS OF OIL

*As suggested by
Prof. Thomas Gold,
crude oil is not the
result of decayed
organic life but is
created by
hydrogenation
processes, as
evidenced by
helium isotopes,
deep within the
Earth.*

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THE LIFE CYCLE OF GAIA

Thirty years ago, the newly discovered concept of plate tectonics¹ offered a self-contained and rational explanation of the evolution of the Earth. Within this model it is axiomatic that the Earth of "now" represents the "cooled-down" remnants of a formerly molten blob of cosmic matter that segregated into a nickel-iron core, a ferrous-metal-siliceous mantle and an alkali-metal-siliceous crust.

That kind of thinking had developed over the 19th and 20th centuries—the time when Darwinism had turned the living world into something that was always progressing towards optimisation in form and function. Nothing that "is" could ever be ideal, as it is "on its way" to perfection.² Also inherent in this understanding was that the inanimate parts of the world were *evolving*.³

What wide-eyed students never really catch onto is the fact that, at best, the top 0.05% of the "thickness" of the inanimate world can be seen; the other 99.05% (if not more) is permanently the realm of more or less educated guesswork. With that, geoscience is surely the most esoteric of all "hard" sciences, and vast doses of "belief" (in theories) on the one hand and "cognitive dissonance"⁴ (to be able to disregard factual data) on the other are required for a geoscientist to "function".

Within the model of plate tectonics, the lighter continental (crustal) plates "raft" on the heavier oceanic (crustal) plates. The new science of palaeomagnetism showed in the 1960s that the rocks which make up the floor of oceans are magnetised in accordance with the magnetic field of the Earth prevailing at the time the rocks were formed. A symmetrical pattern of opposed magnetic polarisation exists on both sides, away from mid-oceanic ridges. This proved two things: (a) the Earth's magnetic field undergoes periodic polar reversals, and (b) the Earth was not "created" at any one time but it is still "forming". Iceland "sits" on the Mid-Atlantic Ridge and is living proof of the *constant creation* of new oceanic crustal material by way of volcanic eruptions. New crust (chiefly formed in the Atlantic Ocean) is dipping under the lighter continental plates to get "consumed" in what is called the asthenosphere.⁵ The circum-Pacific "Ring of Fire" fits neatly into this "metabolic" (circular) model by effecting *compensational destruction*.

The "motor" for all this activity is, according to the basic tenets of plate tectonics, the thermal "activity" of the inner parts of the Earth (driven by radioactive decay). "Hot spots" "wander" around, leaving submarine volcanoes in the world's oceans that generate volcanic islands.

Ever since the 1970s, when British atmospheric scientist and inventor Jim Lovelock began urging a more holistic approach to Earth sciences, scientists have been considering the interactions of the different spheres of Gaia (the "living Earth", named after the Earth Goddess of ancient Greece).

The Earth is manifestly differentiating: what comes up in the volcanoes does get incorporated into the lithosphere, atmosphere, hydrosphere and—not to forget—the biosphere. What is dragged back into the asthenosphere in subduction zones is a quite different mix of elements; the remainder is being incorporated in the continents along the mountain belts which form behind the subduction zones where the excess oceanic crust is being dragged back into the mantle.

One of the most important elements in the life cycle of Gaia is carbon. Carbon has three naturally occurring isotopes. Carbon-12 constitutes 98.89 per cent of all carbon atoms and serves as the standard for the atomic mass scale. Carbon-13 is the only magnetic isotope, which makes it very important for structural studies of compounds containing carbon.

Carbon-14 is produced by cosmic ray bombardment of nitrogen in the upper atmosphere; it is radioactive, with a half-life of 5,760 years. The amount of carbon-14 remaining in historical artefacts can be used to estimate their age.

The textbooks which deal with the composition of the Earth grapple with a most fundamental problem: there is a serious deficit of carbon⁶ involved in the "metabolism" of the Earth. The carbon which "comes up" is only *partially* reabsorbed into the bowels of the Earth. Part of it gets absorbed into the skeletons of organisms as calcium carbonate (limestone, mostly in the form of coral reefs; to a lesser amount as debris of exoskeletons, termed *lumachelles*) and the biomass, which is largely made up of carbon. *Volumetrically there is no balance!*

What is even more detrimental to our understanding of the carbon cycle is the fact that colossal amounts of carbon—in the form of methane gas, CH₄—are escaping from the Earth, if not largely unnoticed then undocumented.

Thomas Gold (see endnote 14) describes how earthquakes are preceded and accompanied by massive outbursts of methane (cause of the fires that are commonly associated with tremors; animals get restless or agitated before earthquakes, arguably because they can sense methane escaping).

In the presence of methane, water freezes at 7° Centigrade above zero. As water is densest (most heavy) at +4° C, there is a zone near every ocean bottom where the methane which escapes the Earth into the oceans (that make up 70 per cent of the Earth's surface) is collected as methane ice.⁷

The estimated amounts of methane ice are such that, piled up on the area of Austria, they would reach up some 11,600 kilometres (or some two per cent of the distance to the Moon). This does not include the vast amounts of methane ice which are trapped in the permafrost regions of the globe.

These vast amounts of carbon do not enter any carbon-balance estimates (on either side of the equation), so why take them seriously?

According to the accepted theory of oil formation, organic matter living in the oceans sinks to the bottom and then decays there (under anoxic/euxinic conditions) to form crude oil. While this *might* be happening to some extent in the Black Sea (which to all extents and purposes is closed off from the world's oceans by the Dardanelles and is the "type region" for euxinic environments), there is *no present-day example* of this happening anywhere on the surface of the Earth. This contradicts the geoscientific principle of "actualism" which says that "the present is the key to the past".

ELEMENT-BUILDING IN THE SOLAR SYSTEM

We have had no reason to believe in any other "theory" (we should better say "hypothesis", as *a theory requires empirical proof of an hypothesis*) other than "consensus logics", which has elevated the paradigm of oil formation to the same ludicrous, all-encompassing status that the evolutionary principle has attained

by simple rote learning and repetition of a canon, selected by the learned elders of the religion of "progress".

What we call "crude oil" is a complex mix of compounds of basically hydrogen and carbon; all other chemical elements present are, in terms of *volume*, of no real significance. The complex hydrocarbon chains are fragile constructs and are stable only under conditions resembling those that all life (as we have come to know it) can tolerate. This places a set of physico-chemical conditions on the presence of hydrocarbons which are the realm of organic chemistry, the chemistry of carbon compounds.

One would have thought that hydrocarbons (being man's best friend; after all, they let men drive macho hot-rods and cruise around in "blues mobiles") and the other form of carbon, diamonds (being a girl's best friend), would make carbon compounds the best-known *anything* in existence.

It came as a big surprise to everyone—especially organic chemists—when the "buckyball" (the C₆₀ molecule; correct name, Buckminsterfullerene), a hitherto unknown crystalline form of carbon, was discovered in 1985 by Rick Smalley (Shell Chemical Company, USA) and Harold Kroto (microwave spectroscopist, University of Sussex, England).⁸ Neither Smalley nor Kroto was a mineralogist; both of them were from "outside" the field. *This is of particular relevance in the present context.*

In 1953, British astronomer/cosmologist Fred Hoyle provided a theory⁹ to explain why the solar process cannot produce some 30 per cent of the known chemical elements (as is indicated by spectrographic investigations of the Sun). Cosmic hydrogen clouds (each atom consisting of one proton, neutron and electron) aggregate until, due to gravitational pressures, temperatures in the interior reach about five million degrees and protons are moving with enough energy to fuse on colliding and form deuterons. Deuterons (cores of hydrogen-2) in turn combine with protons to form helium-3. This is

the helium isotope, with three protons and three neutrons in its core.

Helium-3 does not interact with protons, but laboratory experiments have shown that two helium-3 nuclei can fuse and produce helium-4 (the helium isotope with four neutrons in its core), ejecting the two surplus protons. The net result of this proton-proton chain is the conversion of four atoms of hydrogen into one atom of helium; what in effect happens is that neutrons are "captured". The process of element "building" by way of neutron capture reaches iron (atomic number 56), the most stable of all elements, and then the solar process stops for lack of energy.

Astral bodies akin to our Sun go through several stages, the last of which is the supernova. This is when a sun runs out of hydrogen fuel and gravitationally collapses. This implosion yet again raises temperatures and pressures until they transgress a threshold¹⁰ where the accumulated energy leads to explosive release. In this process (during which far greater energies are involved than in the solar process), all the other naturally occurring chemical elements are produced and the cycle of stellar history begins

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anew. The results of supernova explosions form a cloud which attains angular momentum.

In a way already described by Kant and Laplace some 200 years ago, planets form by accretion of matter. The results of the supernova explosion will get separated in accordance with their mass as they are propelled away for distances in accordance with their mass. The inner planets will be small "stony" (heavy) bodies, while with distance they become bigger but are made up of ever lighter materials—the "gas giants" in the outer reaches of the solar system.¹¹

As our solar system contains all the known naturally occurring chemical elements, it has evidently gone through a supernova stage and is hence a second-generation cosmic formation.

That is about as far as our factual knowledge of the cosmic history of the solar system goes.

HELIUM IN EARTHLY MATTER

Sir Fred Hoyle and Chandra Wickramasinghe showed by way of spectroscopy that a major portion of all matter in the Universe is of *organic* nature.¹² In light of this, Professor Thomas Gold of Cornell University argued that a similar proportion of the matter which later aggregated to form our planet must have been of organic nature as well! One of his crucial arguments relates to the *isotopic composition of helium in earthly matter*.

Although helium occurs in the Earth's atmosphere only to the extent of one part in 200,000 (0.0005 per cent), and small amounts occur in radioactive minerals, meteoric iron and mineral springs, great volumes of helium are found as a component (up to 7.6 per cent) in natural gas (methane, CH₄).

The common helium isotope, helium-4 (4He), "probably comes from radioactive alpha emitters in rocks" (*Encarta® Encyclopedia*, 2002). *Encyclopaedia Britannica* (in its online edition) is slightly less cryptic on the origin of helium: "The helium that is present on Earth is not a primordial component of the Earth but has been generated by radioactive decay. Alpha particles, ejected from the nuclei of heavier radioactive substances, are nuclei of the isotope helium-4".

Radioactive alpha radiation is hence not an electromagnetic phenomenon but consists of particle beams! "Know-it-all" science "decreed" in 1959 that "Alpha particles are of little significance because the outer layers of the skin prevent these radiations from penetrating into the body" (*Encarta Encyclopedia*, 2002), so nobody has unduly worried about this ever since.

On planet Earth at sea level, helium occurs in the atmosphere as 5.4 parts per million of total air. The proportion increases slightly at higher altitudes. About one in 700,000 parts of atmospheric helium consists of helium isotope 3 (3He), now thought to be a product of the decay of tritium,¹³ a radioactive hydrogen isotope of mass 3. Most atmospheric helium is isotope 4 (4He). When organisms breathe in air, they take in this isotopic mix of 3He and 4He; when organisms die, their remains contain that mix of helium isotopes.

The year 1987 saw one of the most significant advances of meaningful cosmology (which was based on fact, rather than the usual fancy) when Thomas Gold, the inventor of radioastronomy, applied to our "little blue-green planet" the results of his decade-long quest to unravel the mysteries of space.¹⁴ He advanced the concept of the "deep, hot biosphere".¹⁵

Implicit in this model for the formation and evolution of the Earth is that the Earth was never a molten, homogeneous cosmic body which then segregated into different spheres according to density and/or the crystallisation temperatures of minerals during the "cooling" of the body. Gold argues that what we call the

"geological evolution" of the Earth is not a function of the cooling of the formerly molten astral body, but rather a function of the ongoing equilibration of what initially may well have been a cosmic refuse dump. Gravitational accretion, aided by asteroid impacts, is held responsible for the thermal processes indicated by the geological record.

THE REAL ORIGIN OF CRUDE OIL

The conventional wisdom was established over the 19th century and is based primarily on geophysical data, i.e., the refraction of shock waves caused by earthquakes (and, of late, also the tremors caused by man-made explosions) on discontinuities of materials of different density within the bowels of the Earth. All this evidence is of an indirect nature and is in the main a "truth" that has emerged from the consensus of generations of scientists who have added innumerable props to an age-old, inductively derived "thought model", where wish was the father of ideas.

Whatever solid evidence there really is, is denigrated and not considered (as it is outside the "paradigm"). When Thomas Samuel Kuhn wrote *The Structure of Scientific Revolutions*,¹⁶ he probably wanted to write a diagnosis. Some are left to wonder as to why it is now administered as therapy.

Thomas Gold showed that when we think of the biosphere, we tend to do so in terms of what we can see, not even considering the possibility that what we know to be the Earth may be "alive" as well.¹⁷ His concept of the deep, hot biosphere holds that what we usually consider the biosphere may not even be half of all the life on Earth!

Drill holes going down to a depth of some 5,000 metres into the crystalline core of the Scandinavian Shield within the (asteroid) impact structure at Siljan in Sweden, and into a similar environment in Canada, *yielded both crude oil and viable bacteria* from that depth! The rocks, either of igneous provenance or in a highly



metamorphosed state, during their formation would have destroyed any organic materials with which we are familiar. *If "oil" were formed in the decay of surface organisms, how would it ever get down into the regions where it can be found now?*

In his earlier book, *The Millennium of Methane* (see footnote 14), Gold presented data on the isotopic composition of the helium content of the methane (natural gas) which accompanies crude oil. Were this oil derived from the remains of "normal" organisms that live in what we usually consider the biosphere, then the helium present in trace amounts *should* have the isotope mix of $^3\text{He}/^4\text{He}$ that occurs in the atmosphere—not the ^4He which is observed to emanate from the inner parts of the Earth in rift zones and from volcanoes and other environments that are linked to the deeper parts of the Earth. Gold provides a wealth of analytical data to show that *helium associated with crude oil (via the associated methane) has an isotopic composition commensurable with a "deep" origin!*

The physical impossibility of any "normal" life existing at the pressures and temperatures prevailing at a depth of five kilometres and the trace amounts of isotopic helium occurring with the methane associated with crude oil are conveniently not considered when the "going paradigm" of oil formation is discussed. The bacteria living *within* the Earth derive energy from *reductive* processes (of methane and to a lesser extent of sulphates) rather than from oxidative processes, like all other "normal" life *upon* Earth.

"Extremophile" life is found everywhere that researchers care to look—in nuclear reactors, volcanic vents, deep-sea grabens, even in space!¹⁸ This is not a "modern" phenomenon. Paul Rincon (BBC News Online, 22 April 2004) reported that researchers have found evidence for early life on Earth having thrived in submarine lava flows. Microbes broke down volcanic glasses in pursuit of sustenance in "pillow lavas" of the Barberton Mountainland in southern Africa as long ago as 3.5 billion years. By metabolising these materials, they left behind tubular structures within which are traces of organic carbon. Modern such structures also contain nucleic acids and increased traces of carbon and nitrogen—the key elements of life.

The textbooks on the genesis of crude oil¹⁹ all regurgitate the "story" that had seemed to make sense when "Colonel" Drake drilled a hole near Titusville in Pennsylvania in the fateful year of 1859.²⁰ His brief had been to prospect for salt—but he discovered oil! There being coal seams in the general area led to an immediate knee-jerk reaction of know-it-all science: the oil *had* to be a segregation from the coal, which because of its content of fossilised wood *had* to derive from plant matter.

In the more than 150 years since, there has been not a single experiment that has succeeded in "creating" oil from plant (or animal) matter!²¹ Despite this, institutionalised geoscience keeps telling its students that oil is "fossil fuel" and has derived from the remains of organic matter.

Chemists have long since known how to synthesise more

complex hydrocarbon molecules. Hydrogenation is a reaction that combines hydrogen with unsaturated organic compounds (hydrocarbons). Unsaturated organic compounds have at least one pair of carbon atoms connected by a double or triple bond. When an unsaturated compound is treated with hydrogen at a suitable temperature and in the presence of a catalyst (some substance which has to be present during a chemical reaction without being materially involved in it, such as finely divided nickel, platinum or palladium), the multiple bond between the carbon atoms is broken and a hydrogen atom attaches itself to each carbon atom. For example, when ethylene (C_2H_4) is hydrogenated, the product is ethane (C_2H_6).

Hydrogenation is also used with more complicated molecules, yielding a great variety of synthetic products that are important in the laboratory and for industry.

The Bergius process—named after the German chemist Friedrich Karl Rudolph Bergius (1884–1949; Nobel Prize winner in 1931)—is used on a large scale in many parts of the world where petroleum resources are low. It utilises coal and coal tar as a starting material. The coal, mixed with a heavy oil, is ground to a fine paste and heated with hydrogen, under pressure, in the presence of a catalyst composed of metallic sulphides. The resulting oil is further hydrogenated, and a third hydrogenation yields gasoline. One tonne of coal yields about 304 litres (about 80 gallons) of gasoline.

The Fischer–Tropsch process (named after its developers, the German chemists Franz Fischer and Hans Tropsch) was used extensively in Germany in the 1930s to produce synthetic petroleum and diesel fuel. It uses a mixture of carbon monoxide and hydrogen gases with a catalyst containing nickel, cobalt or modified iron.

Hydrogenation processes of some sort, operating within the bowels of the Earth, seem to be a far more likely mode of formation of crude oil than what the apostles of the religion of "fossil fuel" are sermonising us with. This would explain why there is oil found in places such as:

- the Californian coast, which is overlying a subduction zone (where the Pacific oceanic crust dips under the North American continent) and is in close proximity to the San Andreas fault zone, one of the most mobile regions of the Earth's crust (this might not be a "despite", but a "because" type of relation);

- the Bight of Biafra, where the African continent is fractured eastwards as is evidenced by geomorphology;

- on the other side of the Atlantic, off the Brazilian coast, where oil-producing wells drilled in some of the deepest water to date make a complete mockery of the "going paradigm" as well;

- the Muglad Basin in Somalia, which is rather close to the East African graben, along which the eastern parts of Africa are separating from the rest of the continent;

- the Highlands of Papua New Guinea, a still-active orogen (region of mountain building);

- the North Sea, where an impact structure dubbed "Silverpit"²², dated at roughly the same age as the Chicxulub impact structure

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off the Yucatán Peninsula, Mexico, i.e., 65 million years old, is in close proximity to an oil-producing region;

- the Indonesian Archipelago, which is one of the most mobile zones of the Earth; oil is produced in many parts.

None of the above-listed regions has significant sedimentary formations which could act as "source rocks" or even "host rocks". What they *do* have in common is the fact that they are highly mobile parts of the Earth's crust or are close to structures which penetrate deep into the inner parts of the globe.

It would seem reasonable to assume that these structures provide for channelways along which *oil, which is forming constantly in the equilibration of the inner parts of the Earth*, escapes to the surface. The "connection" of crude oil with life, it seems reasonable to argue in this light, is entirely different from what is currently assumed: *oil does not form from life, but the hydrocarbons from the inner parts of the globe support life in the deep, hot biosphere!*

BETWEEN A ROCK AND A HARD PLACE

As a "hard-rock" exploration geologist for over a quarter of a century, the author has worked on five continents and has had innumerable opportunities to discuss the matter with oil geologists over distilled hydrocarbons. Most of these discussions ended in shouting matches and *ad hominem* attacks. Not one of the above-cited arguments has ever been considered as relevant to the matter under discussion. This is reminiscent of the line which the Pope followed when it came to "the Passion of the Christ": "It was as it was"!

The presently *en vogue* paradigm of "oil formation" is little more than an apodictic religious dogma. The voicing of any doubt as to its veracity is tantamount to professional suicide for oil industry professionals; ridicule

is dished out to other scientists and distasteful remarks are reserved for all those who have no "special knowledge".

This is reminiscent of the tactics of the Propaganda Minister of the Third Reich, Dr Josef Goebbels, who elevated the working knowledge of bricklayers to an art form: "The harder you throw the plaster, the better it will stick!" As regards the paradigm of oil formation this then reads: "The bolder the lie, the more credible it is!"

German philosopher Professor Jürgen Habermas demands all participants in intellectual discourse to possess "participant knowledge".²³ In doing so, he deprives the majority of mankind of one of its most fundamental rights: to have a say in existentially important matters. When Thomas Kuhn (cf. endnote 15) "installed" the concept of *paradigms* by way of a "macro" (a materialised algorithm) into the software of modern thinking, he effectively did for academia what Habermas did for mankind in general: issue everybody with a "gag order"!

In this way, academia is dumbed down, just like the general public is said to be too stupid to possibly be able to understand "science". By telling everybody to mind their own business, academia is just as brutally divided into mental cages as mankind in general. This also flies in the face of the democratic principles. Academic specialists (the ones "in the know") advise elected officials on policy. In effect, many existentially fundamental matters are decided totally undemocratically.²⁴

Real scientists use terminology in order to define precisely the more fickle aspects of their work, while the "cash and carry" scientific enterprise of modern times uses terminology to exclude unwanted outsiders who could possibly upset the paradigms. Peer review of academic publications used to be self-censoring to exclude methodologically unsound research from the literature. Of late it ensures that the paradigms are adhered to, and this introduces an entirely different kind of censorship. The consensus of the learned elders of whatever scientific discipline regarding the permitted results of research stifles the progress of science. A case in point: rapid progress "happens" in fields like information technology or genetic engineering—disciplines so new that they have neither a paradigm nor ethical guidelines to keep them sliding from bottomless immorality into criminality.

THE END OF OIL?

At this point, this essay comes full circle. By calling oil "fossil fuel", a "macro" is working on the cognitive faculties of people who are "empowered" by the combustion of hydrocarbons. Anything "fossil" is by definition *finite*, and when the oil industry continues to presage "the End of Oil" it surreptitiously massages

the mind of the "power-hungry" person on the street. The closer the "finite" resource of "fossil fuel" gets to its predicted "end", the easier it is to justify a turning of the price spiral. In this way, the individual is tricked into unquestioningly accepting any price at the pump, while entire nations see nothing wrong in simply going on the warpath to ensure they remain "powerful".

The history of the 20th century could be rewritten in terms of all the wars having been simply the means to the end of getting at the quantities of oil required to keep "development" of the world going at the most

profitable pace. My article titled "Big Oil and the War on Drugs and Terrorism" [NEXUS, vol. 11, no. 4] outlined an alternative way of stringing together the military conflicts of the last century.

While the high and mighty were simply ordering their subjects into World War I, the Second World War was the result of mass hysteria and brutal manipulation. After the first round of wholesale mass slaughter, the world said "Never again!", but 20 years later the "Fuehrers" of mankind proved to have the historical memory capacity of the common fruit fly. As "effective" as the League of Nations was after World War I in assuring that there would be no next global war, the United Nations organisation formed at the end of World War II was similarly useless. What it achieved in effect was that the founders of both these institutions were able to retain their economy on a war footing continuously by "regulating" the arms (usage) industry.

When entire nations get herded into the boxcars of trains heading for oblivion in modern times, as always there is "sound scientific evidence" produced to justify even the most outrageous actions. In 1956, Shell geologist M. King Hubbert predicted (correctly as it turned out) that *US oil production* would peak in the early 1970s and then begin to decline. Was the political reality a coincidence? The 1973 war over Palestine let the oil price climb into the lofty regions that made the exploitation of the recently discovered vast oil reserves in the North Sea a viable proposition.

K. S. Deffeyes did similar work to that of Hubbert on *global oil*

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production, predicting it to "peak" between 2004 and 2008.²⁵

It seems hard to dismiss a connection between American geopolitical posturing (and unilateral action) and this kind of thinking.

This time around, it is the oil reserves of the Argentina–Falklands Shelf, discovered in the late 1970s (which were the reason for the Falklands War), which require an oil price hike of vast proportions to justify the gigantic investments to put this resource (rumoured to be 10 times the size of that of Saudi Arabia) into production.

DEPLETED URANIUM AND THE IRAQI OILFIELDS

Only lateral thinkers will ever grasp the probable reason for turning Iraq into a nuclear waste dump. When the truth about the effects of using depleted uranium²⁶ (DU) ammunition hits home, the second-largest (commonly known) oil reserves of the globe will remain in the ground.

Nobody will risk having their children born anophthalmic (without eyes) or even without a brain, or with fused fingers or other unspeakable birth defects.

Andy Kershaw reported for the UK *Independent* from Basra, southern Iraq, on 1 December 2001 about the ghastly effects of DU munitions on the health of the local population.

During the Gulf War, the USA and UK pounded the city and its surroundings with 96,000 depleted-uranium shells; soon after, children were born there with grotesque congenital abnormalities.

From 1991 (the end of the Gulf war) until 1994, the Basra Maternity Hospital saw 11 congenital anomalies; in 2000, there were 221 such abnormalities. The hospital treated 15 children with leukaemia in 1993; in 2000, it treated sixty.

A study of the families of 251 Gulf War veterans in Mississippi has revealed that 67 per cent of all children fathered by these soldiers after their tour of duty in Iraq were born without eyes or ears, or even without a brain, and with grotesque congenital abnormalities (Dr Lauren Moret, environmental geologist, *San Francisco Bay View*, 11 July 2001).

These reports have not been quoted by other news media, but have been buried under "more interesting" news.²⁷

According to Larry Johnson, writing in the *Seattle Post-Intelligencer* (4 August 2003): "The Pentagon and the United Nations estimate that the US and Britain used 1,100 to 2,200 tons of armor-piercing shells made of depleted uranium during attacks on Iraq in March and into April 2003—far more than the estimated 375 tons used in the 1991 Gulf War."

When similar reports of the results on public health after the second "gang rape of Iraq" surface from Iraq itself and the nations that have made up the "gang", there will be signs sprouting up at petrol pumps: "We sell only gasoline produced from oil certified as NOT FROM IRAQ".

With that, the vast oil reserves of Iraq will stay in the ground, the resulting price hike will turn the Argentina–Falklands Shelf into a porcupine of oil rigs, and mankind will be waiting for the next chapter in the history of "Big Oil".

About the Author:

Austrian-born Dr Siegfried E. Tischler received his PhD in Geosciences in 1977 from Leopold-Franz University, Innsbruck. Since then, he has worked on five continents as a geoscientist in academia (with the Austrian Mining University), in government (as Director of Mining in Transkei, a former South African "Homeland" where he established a Geological Survey Department), and in industry (as a mineral exploration management consultant).

In 2001, he took on an assignment as Visiting Professor in the Department of Sociology, University of Graz, Austria, to teach Ethics of Science within the framework of a course dealing with the management of crises and catastrophes, offered to post-graduates within senior positions in government and industry. Since May 2003, he has been a Visiting Professor at the University of Riau, Indonesia, setting up a Centre for Ethics of Science. He has joined PT Multi Nuansa Harmoni as Director Utama in order to market his technologies for the oil service industry and the region, and is presently based on Batam Island, Indonesia.

Dr Tischler is happy to receive and reply to comments emailed to setex01@yahoo.com. For a more detailed biography, visit <http://resumes.yahoo.com/setex01/siegfriedtischler>.

Dr Tischler will be speaking about global oil politics and related subjects at the NEXUS Conference in Brisbane in September 2004.

Endnotes

1. Dewey, J., "Plate Tectonics", *Scientific American* 226:56-68, 1972.
2. This is very much in keeping with monotheistic thinking which turns the human earthly presence into waiting in an ante-room of otherworldly paradisiacal bliss. The administrators of "-isms" (religious, political or scientific) make a good living out of the sale of "tickets to ride"...
3. Windley, B.F., *The Evolving Continents*, Wiley & Sons, New York, ISBN 0-471-99475-8, 1977.
4. American psychologist Leon Festinger proposed in 1957 a "theory of cognitive dissonance", according to which emotional homeostasis is established when the perceptions agree with expectations. Whenever contentedness is not possible to achieve in any other way, then perception is "filtered".

See also Milton, R., *Forbidden Science*, Fourth Estate, London, ISBN 1-85702-302-1, 1994. Google.com finds under "cognitive dissonance" a whole litany of new and newest literature on the Internet. (The concept has again been recognised as relevant!)

5. David Pratt cites multiple examples of evidence from a wide range of geoscientific disciplines to show that "plate tectonics" is far from the all-embracing geodynamic paradigm that it has become over the last quarter of the 20th century, and he advises a more circumspect approach to the subject. See Pratt, D., "Plate Tectonics: A Paradigm Under Threat", *Journal of Scientific Exploration* 14(3):307-352, ISSN 0892-3310/00, 2000.
6. Ehrlich, Paul R., Anna H. Ehrlich and J.P. Holdren, *Ecoscience: Population, Resources, Environment*, Freeman, San Francisco, ISBN 0-7167-0567-2, 1972. This is a curious book: a totally incomprehensible problem is described in everyday language in a way to make it seemingly "go away"...
7. Krenvolden, K.A. and L.A. Barnard, "Hydrates of natural gas in continental margins", in Watkins, J.S. and C.L. Drake (eds), *Studies in Continental Margin Geology*, Amer. Assoc. Petroleum Geol. Memoir 34, 1982, pp. 63-144. That this data was available over 20 years ago

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shows science to be irresponsible and politics to be criminal. For more data, see also: Ellis Evans, J.C. and D. Wynn Williams, "A Great Lake under the Ice", *Nature* 381:644-46, 2000; Stone, R., "Russian outpost readies for other-worldly quest", *Science* 279:658-61, 1998.

8. Aldersey Williams, H., *The Most Beautiful Molecule: The Discovery of the Buckyball*, J. Wiley & Sons, New York, 1995. The name of the mineral honours architect R. Buckminster-Fuller, who popularised geodesic domes.

9. Hoyle, F., *The Nature of the Universe*, Basil Blackwell, Oxford, 1953.

10. This is termed the "Chandrasekhar limit" (or, in the popular vernacular, "event horizon"): any mass greater than 1.4 solar masses will not explode into a supernova, but implode to form an all-consuming "black hole".

11. Interestingly, Uranus orbits the Sun at an oblique angle which does not fit with the "going paradigm" of planet formation. Reuters reported in June 2002 about the discovery of an entity akin to our solar system around 55 Cancri, a star within the constellation Cancer (at some 41 light-years or 410^{12} km distance from Earth) which can be seen with the naked eye. Three "gas giants" orbit 55 Cancri (as in our solar system); in a position analogous to Mars, Earth and Venus, there is a "void" (of factual knowledge?) within which another

Gaia may hide. More about all this can be found at <http://www.jpl.nasa.gov/images/newplanets>.

12. Hoyle, F. and C. Wickramasinghe, *Our Place in the Cosmos: Life did not begin on Earth – it arrived from space and is still arriving*, Phoenix, London, 1993.

13. Tritium ^3H is a radioactive isotope of hydrogen. It has a half-life of 12.43 years and decays by beta emission to helium-3 (^3He). Tritium is produced naturally by the interaction of cosmic rays with nitrogen and oxygen, mainly in the upper atmosphere. Tritium exists in the atmosphere in the form of tritiated water molecules (HTO) and is transferred from the atmosphere to the Earth's surface through vapour exchange and rainfall. The involvement of tritium in the hydrological cycle makes it an excellent transient tracer for tracking water movement in natural water systems. By the late 1950s and early 1960s, large quantities of anthropogenic tritium were delivered to the atmosphere by the thermonuclear weapons tests. This anthropogenic signal completely masked the small quantities of naturally produced tritium. Tritium is used as a tracer in chemical and biochemical research.

14. Gold, Thomas, *Das Jahrtausend des Methans. Die Energie der Zukunft – unerschöpflich, umweltfreundlich* ("The Millennium of Methane – The Energy of the Future: inexhaustible, environmentally

friendly"), ECON, Düsseldorf, 1987.

15. Gold, Thomas, "The Deep, Hot Biosphere", *Proceedings of the National Academy of Science, USA* 89:6045, 1992. It should be mentioned here that in this paper Gold draws attention to the fact that such ideas have been "textbook" wisdom in the USSR for decades. With the takeover of the former Eastern Bloc and especially its oil industry by Western capital, this knowledge has largely "disappeared" from academia in the former Second World. Prof. Igor Hrusecky, Chairman of the Department of Geophysics and Hydrocarbon Potential, University of Bratislava, Slovak Republic, alerted the author to this in February 2001. This kind of thinking is eminently more rational than the "going paradigm" in Western academia; it can be proved experimentally and does not require any *deus ex machina*. That it is not permitted even to be considered as an alternative shows Western (geo-) science as a fraudulent enterprise driven by special interests.

16. Kuhn, T.S., *The Structure of Scientific Revolutions*, University of Chicago Press, Chicago, 1962. By some 20 years later, paradigms had become *the* slogan in science; and it can be shown that they are little more than the effect of academic nihilism which has turned science and art into pure formalisms. "The crustification of thinking along pre-determined schemata, the suffocation of new ways of

thinking under mountains of alpha-numeric data, the prohibition of creativity by the force of the canon sometimes permit haphazardly outstanding achievements—which mostly, however, just hide the fact that they are based on naught." Kraus, W., *Nihilismus heute oder Die Geduld der Weltgeschichte* ("Nihilism or The Patience of World History"), Fischer Verlag, Frankfurt/Main, ISBN 3-5962-4348-3, 1985, p. 19. Some 50 years earlier, Sergyei Nilus deposited the *Protocols of the Learned Elders of Zion* with the British Museum. They postulate that the Goyim (non-Jews) are not led by the practical use of unbiased historical review, but follow theoretical routines without critical appreciation of consequent results. (Who does not wonder whether T.S. Kuhn had a ghostwriter?)

17. Gold, Thomas, *The Deep, Hot Biosphere*, Copernicus, New York, 1999.

18. Horikoshi, K. and W.D. Grant (eds), *Extremophiles: Microbial Life in Extreme Environments*, Wiley Series in Ecological and Applied Microbiology, Wiley-Liss, ISBN 0-4710-2618-2, 1998.

19. *Ex pluribus unum*: Hyne, N.J., *Geology for Petroleum Exploration, Drilling and Production*, McGraw-Hill, New York, 1984.

20. In that same year, the Red Cross was founded, Wallace and Darwin advanced the

"evolutionary principle" and Russia finally subdued the Ukraine and gained control over the oil-rich region of the Caucasus (and in the process caused the exodus of millions of Askhenazi Jews, which resulted in the "Jewish problem" of Europe).

21. This is not a singularity: in 1952, the Urey–Miller process, where a mix of methane, water vapour and other gases thought to have been prevalent in the primordial atmosphere was subjected to electrical discharges, resulted in deposits of amino acid-like substances. This was considered proof for the "origin of life" on Earth. That not all of the necessary "building blocks of life" were formed in this way made the concept unworkable, and most damning was the fact that all those constructs were dextro-rotary, while all such organic formations are levo-rotary! As this would have utterly destroyed "the story", it was hardly ever reported!

22. In August 2002, Simon Steward (BP, Aberdeen) and Philip Allen (Production Geoscience, Banchory) reported in *Nature* (418:520, 2002) that some 140 kilometres east of the mouth of the Humber River in England lies an impact structure, christened "Silverpit", which was created some 60 to 65 million years ago in the North Sea (simultaneously with the Chicxulub structure off the Yucatán peninsula which is held responsible for the extinction of the dinosaurs).

23. Habermas, J., *Theorie des kommunikativen Handelns* ("Theory of Communicative Action"), Frankfurt/Main, 1981, 2 volumes.

24. The manifest idiocy of genetic engineering would never have come to be if democratic principles had been at work. Would a medical doctor (being cognisant of his Hippocratic oath) ever let a bioengineer loose? Can a mathematician, in the knowledge of Gödel's theorem, ever be sure? This list could be extended *ad infinitum* or *ad absurdum*...

25. Deffeyes, K.S., *Hubbert's Peak: The Impending World Oil Shortage*, Princeton University Press, ISBN 0-6910-9086-6, 2001.

26. Depleted uranium (DU) in armour-piercing ammunition externalises elegantly one of the cost factors of nuclear power generation: natural uranium ore is 96% 238U; only the meagre rest is the highly radioactive (and fissionable) 235U. The enrichment leaves the useless 238U, an alpha-ray emitter with a half-life of some 4.5 billion years, as highly dangerous toxic waste. The high atomic weight renders 238U ideally suited as tipping for tank-buster weaponry. Tungsten would serve the same purpose, but it is not freely available as waste.

27. That was the *Larry King Live* epoch when DNA was of interest only in terms of blood on fences (from OJS?) or stains on Monica's blue dress (from WJC?).